

### REMARKS

Claims 1-21 stand rejected upon informalities and on prior art grounds. Claims 1-21 are cancelled herein without prejudice or disclaimer. Claims 22-42 are newly added herein and are all the claims pending in the application. Applicants respectfully traverse these rejections based on the following discussion.

#### **I. The 35 U.S.C. §112, First Paragraph, Rejection**

Claims 1-21 stand rejected under 35 U.S.C. §112, first paragraph. These rejections are traversed as explained below. Claims 1-21 are cancelled herein without prejudice or disclaimer. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

#### **II. The Prior Art Rejections**

Claims 1-5, 8-12, and 15-19 stand rejected under 35 U.S.C. §102(e) as being anticipated over Saloniadis, et al. (U.S. Publication No. 2003/0096576), hereinafter referred to as "Saloniadis". Claims 6-7, 13-14, and 20-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Saloniadis. Applicants respectfully traverse these rejections based on the following discussion. Saloniadis fails to disclose, teach or suggest the features of Applicants' newly added independent claims 22 and 36, including, "...periodically interrupting an activity being executed by a device to scan, for a pre-determined time period, for inquiry messages from other devices irrespective of which state of activity said other devices are in in between inquiry scans of said other devices, wherein said periodic interruption of an activity occurs at least once every periodic cycle, and wherein a scanning frequency of said inquiry scans changes every said periodic cycle; returning

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to continue said activity for a random time period on receipt of an inquiry message from another device and, upon expiry of said random time period, processing said inquiry message in accordance with normal procedures applicable to the particular frequency hopping based ad-hoc network when said devices to scan are not found, wherein said random time period to continue said interrupting activity, before processing said inquiry message received from another device, is constrained to be less than or equal to half of said periodic cycle, and wherein receipt of said inquiry message from said another device must occur in a time period equal to no greater than twice said periodic cycle for any starting said scanning frequency; and returning to continue said activity on expiry of said pre-determined time period when said devices to scan are found."

Similarly, Salonidis also fails to disclose, teach or suggest the features of newly added independent claim 29, including, "...a processor adapted to periodically interrupt an activity being executed by a device to scan, for a pre-determined time period, for inquiry messages from other devices irrespective of which state of activity said other devices are in in between inquiry scans of said other devices, wherein said periodic interruption of an activity occurs at least once every periodic cycle, and wherein a scanning frequency of said inquiry scans changes every said periodic cycle; wherein said processor is adapted to return to continue said activity for a random time period on receipt of an inquiry message from another device and, upon expiry of said random time period, processing said inquiry message in accordance with normal procedures applicable to the particular frequency hopping based ad-hoc network when said devices to scan are not found, wherein said random time period to continue said interrupting activity, before processing said inquiry message received from another device, is constrained to be less than or equal to half of said periodic cycle, and wherein receipt of said inquiry message from said another device must occur in a time period equal to no greater than twice said periodic cycle for

any starting said scanning frequency; and wherein said processor is adapted to return to continue said activity on expiry of said pre-determined time period when said devices to scan are found.”

Support for the newly added features of independent claims 22, 29, and 36 is found in the Applicants’ original specification (page 10, line 12 through page 11, line 5 as well as page 18, lines 10-27). Contrary to the assertion on page 5 of the Office Action that the one of ordinary skill in the art would find it easy to set the time parameters of the Applicants’ claimed invention by modifying the parameters associated with predefined probability distribution. However, the Applicants’ original specification (page 10, lines 23-27) specifically describes how such a manipulation of the parameters is not obvious and that the time period for receiving the inquiry message is significant (i.e., 5.12 seconds, which equates to twice the periodic cycle of 2.56 seconds). Specifically, page 10, lines 23-27 of the Applicants’ original specification provides, “Though one might expect that the simple scheme of periodically interrupting inquiry for 18 slots every 2.56 sec will work, there are some considerations based on the factors listed above. In particular, unbounded delays might be caused in case of synchronization. It is...shown...that a device doing randomized inquiry scan within a period of 1.28 sec is ensured to receive an inquiry message from a single inquirer in 5.12 sec.” Therefore, routine experimentation and manipulation of the parameters is not obvious.

Both Salonidis and the Applicants’ invention describe means of improving device discovery performance for existing Bluetooth™ technology. However, paragraphs [0017, 0019, and 0022] of Salonidis do not disclose a new method but simply describes features of the well-known Bluetooth™ specification. Conversely, the Applicants’ invention proposes improvements for the existing Bluetooth™ technology.

Paragraphs [0045, 0046] in Salonidis propose alternate switching of states between

inquiry and inquiry scan states of Bluetooth™ specification at random time instants. This is different from the windowed approach described in the Applicants' invention where time is divided into intervals and an inquiry scan is conducted once every interval starting at a random instant (within the interval).

Since the Salonidis method is focused on connecting two or more devices where in a first state, the device seeks to establish a connection with another device, and in a second state, the device renders itself available for connection with another device and "alternating a present state of each device between the first state and the second state in accordance with a predefined probability distribution until either a predetermined timeout period has expired or a connection between the devices has been established," this conventional method may likely provide an inquiring device, which is unavailable for discovery for a long period of time.

Therefore, Applicant's invention is configured so that "the proposed algorithm increases the rate of useful responses for the same scenario by up to 60%. For a given number of Max-responses, the inquiry delays and the number of timeouts are seen to be reduced by 50%. Thus the proposed algorithm improves the device discovery delays without adding any complexity. The inputs to the frequency hopping kernel, for all types of hopping sequences remain unchanged. The algorithm thus will reduce the pre-connection overheads for Bluetooth™ based systems and make more bandwidth available for useful communication." (See page 18, lines 1-7 of Applicants' specification). Based on the above, Salonidis fails to teach the Applicant's newly added independent claims 22, 29 and 36, and related dependent claims 23-28, 30-35 and 37-42.

In view of the foregoing, the Applicants respectfully submit that Salonidis does not teach or suggest the features defined by newly added independent claims 22, 29 and 36 and as such, claims 22, 29 and 36 are patentable over Salonidis. Further, dependent claims 23-28, 30-35 and

37-42 are similarly patentable over Salonidis, not only by virtue of their dependency from patentable independent claims, respectively, but also by virtue of the additional features of the invention they define. Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

### III. Formal Matters and Conclusion

In view of the foregoing, Applicants submit that claims 22-42, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,



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